

In the Matter of)	
)	
The Petition for Rulemaking to Establish)	MB RM No. 11287
a Low Power AM Radio Service)	
)	

Petition For Rulemaking: MB RM No. 11136

Band AM stations in the FCC rules. Assuming the use of the protection requirements that *normally apply to radio stations* in Standard Band AM broadcasting, as requested in the LPAM proposal, would effectively render the Petition moot with the exception of a change in Commission Rules to allow for an operating power of less than 250 watts.

4. The original allocation of stations in the AM Expanded Band (1605-1705 kHz) was accomplished utilizing distance spacing instead of contour protection; however, the Commission has, thus far, been silent on the issue of how future expanded band stations will be allotted. Assuming the use of the protection requirements that *normally apply to radio stations* in Expanded Band AM broadcasting would, again, effectively render the Petition moot with the exception of a change in Commission Rules to allow for the operation of non-Model I facilities in the expanded band.

III. Distance Spacing is an Inadequate Criteria for AM Allocations

5. Since the use of existing AM allocation Rules appears incompatible with the LPAM proposal, it might be assumed that the Petitioners intend that distance spacings be utilized to demonstrate protection of existing licensed AM stations. However, even utilizing the 10 dB “assumed wattage” safety factor put forth by the Petitioners, distance spacings are wholly inadequate for use in AM allocation criteria.

6. Ground conductivity, which is an essential component in calculating propagation of AM signals, varies substantially throughout the United States. FCC Rules permit the use of conductivities between 0.1 millimhos/m and 5000 millimhos/m based upon the local soil conductivity of a station, determined by either FCC Figure M3 or measured soil data. Propagation of an AM signal is dramatically affected by this value. For example, the distance to the co-channel interfering contour (0.025 mV/m) for a 100-watt station operating from a single 65° tall tower on 840 kHz, can vary as follows:

<u>Conductivity</u>	<u>Distance to 0.025 mV/m Contour</u>
0.1 millimhos/m	55.9 km
30	354.7
5000	656.9

7. Furthermore, approximately 25% of licensed daytime facilities and 42% of licensed nighttime facilities in the standard band operate using directional antenna systems. Some high power (50 kW) stations can have protected 0.5 mV/m contours that, due the directionality of the pattern, extend up to 360 kilometers.



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8. The petitioners do not provide actual distance spacings for co-, first-, or second-adjacent channel protection. However, they maintain that the distance spacings proposed in the Baumgartner petition* for LPAM: 225 kilometers for co-channel stations, 150 kilometers for first-adjacent stations, and 50 kilometers for second-adjacent stations, are “so extremely cautious that they would limit unreasonably the potential number of frequencies for LPAM stations.” However, as demonstrated above, in many cases the spacings proposed in the Baumgartner petition may actually result in LPAM stations being located *within* the protected contour of a full-service station or with the interfering contour for an LPAM station blanketing a major portion of a licensed station’s protected service contour.

IV. Nighttime Interference

9. Again, assuming that the proposed allocation criteria for LPAM is based upon distance spacing, this method fails to take into consideration nighttime skywave propagation of AM signals and the resulting possibilities for increased interference in the AM band. Even at 100 watts operating power, an LPAM station can cause increased interference to full-service stations from several hundred to more than a thousand kilometers away. This problem is exacerbated by the use of shorter towers, such as those proposed in the LPAM petition, which have a greater high-angle signal generated skyward than taller towers and therefore present a greater interference risk.

V. The Proposal Fails to Consider Class A Stations

10. Regardless of what allocation criteria is proposed for LPAM, the Petition fails to make a distinction for Class A stations, which have far more restrictive protection criteria than other classes of AM stations. In particular, the Class A protected contour for daytime operation is the 0.1 mV/m contour versus the 0.5 mV/m contour for all other classes. Therefore, protection extends much farther for Class A stations. Nighttime protections for Class A stations are not only more restrictive, but are calculated by a different method than for other Classes of AM stations. Consideration of the greater protections accorded to Class A stations must be mandatory for any LPAM proposal.

VI. Expanded Band is not Developed Sufficiently to Allow for LPAM

11. The expanded band is currently populated by stations assigned during the initial allocation period. The Commission thus far has not established a plan for the future allocation of stations

* RM-10803, dated October 22, 2003



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within the expanded band. However, it is likely that there is sufficient open spectrum to allow for the allocation of many more full-service Model I stations within the 1605-1705 kHz band. Adoption of the Standard Band rules for the expanded band would allow for even more full-service stations, with greater interference protection, to be allocated in the expanded band. Until the expanded band has been successfully populated with full-service stations, it would be premature to consider use of this spectrum for LPAM service. Precluding the allocation of an otherwise allowable full-service station due to the allotment of an LPAM station, particularly in a major market, is a poor use of valuable spectrum.

VII. Summary

12. The Commission has asked for comments on the LPAM proposal put forth by the petitioners. However, the proposal is so lacking in technical detail as to present no more than a philosophical question on the appropriateness of an LPAM service. Many questions need to be answered and included in any future proposal before LPAM can be properly evaluated by all concerned parties.



Respectfully submitted,

By

A handwritten signature of William F. Hammett in black ink.

William F. Hammett, P.E.
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By

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